

Mouth

First point of digestion. Teeth and tongue carry out mechanical digestion to break larger pieces of food into smaller pieces. This makes it possible to ingest and also aids chemical digestion by increasing the surface area of the food.

Tongue Muscular organ that carries out physical digestion by mixing food in the mouth. This also aids chemical digestion by mixing the food with enzymes.

Liver Produces bile which is secreted into the small intestine to emulsify lipids. The liver is also involved in the conversion of glucose into glycogen, maintaining balanced blood glucose levels.

Gallbladder

Small pouch beneath liver. Stores bile produced by liver and releases it into the small intestine.

Colon (large intestine)

Absorbs water (that has been secreted by digestive glands) to prevent dehydration.

Rectum - Final section of intestines. Faeces stored here until it passes out periodically through the anus (opening at the end).

Salivary glands

Secrete the enzyme ^{salivary} **amylase** into the mouth via ducts. **Amylase** hydrolyses starch into maltose. First point of chemical digestion.

Esophagus

A muscular tube which passes food from the mouth to the stomach by sequential peristaltic contractions of the circular muscle.

Stomach - A muscular sac which carries out physical and chemical digestion. Muscular movements break food into smaller pieces (increase SA) and mixes it with gastric juice (increase rate of digestion by enzymes). The inner walls secrete enzymes. The stomach also acts as a food store.

Protease (pepsin) - proteins $\rightarrow$ peptides $\rightarrow$ amino acids

Pancreas (large gland)

Secretes pancreatic juice (contains **proteases** which hydrolyse protein into amino acids, **lipase** which hydrolyses lipids into fatty acids + glycerol and the **carbohydrase amylase** to hydrolyse starch).

Ilium (small intestine)

A long muscular tube that carries out chemical digestion using enzymes secreted by its walls + nearby glands. Inner walls are folded into villi and the villi epithelium is folded again into microvilli, greatly increasing the surface area for faster absorption of nutrients into the bloodstream.

Amylase - starch $\rightarrow$ maltose

Maltase - maltose $\rightarrow$ α -glucose

Protease - proteins $\rightarrow$ peptides $\rightarrow$ amino acids

Lipase - lipids $\rightarrow$ fatty acids + glycerol

